Vending Machines:

Distancing, Gathering control …..and more
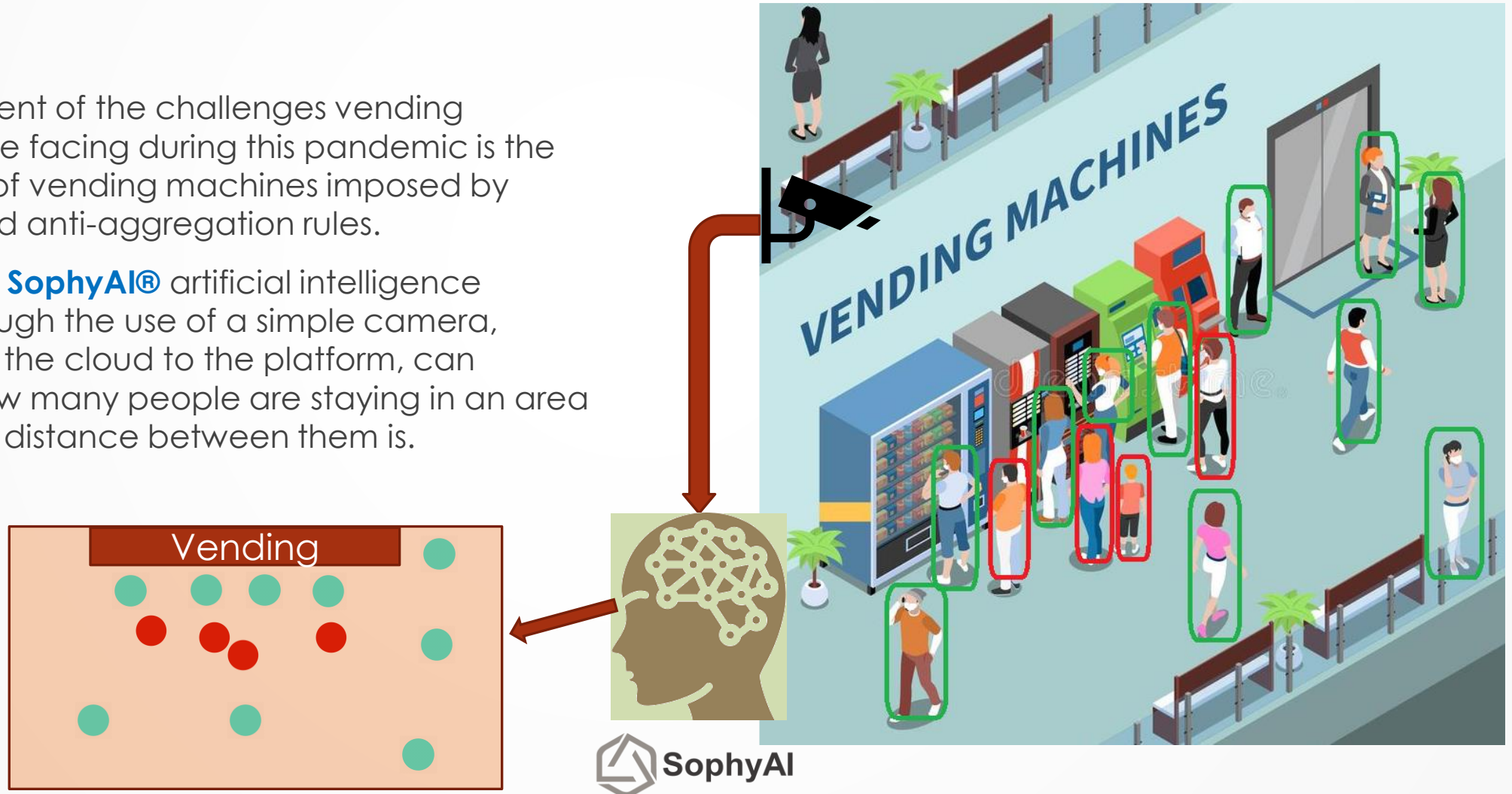
Powered by our patented

Sophyai.io

LASER navigation

SophyAI®, artificial intelligence for uninterrupted supervision with very low infrastructure requirements
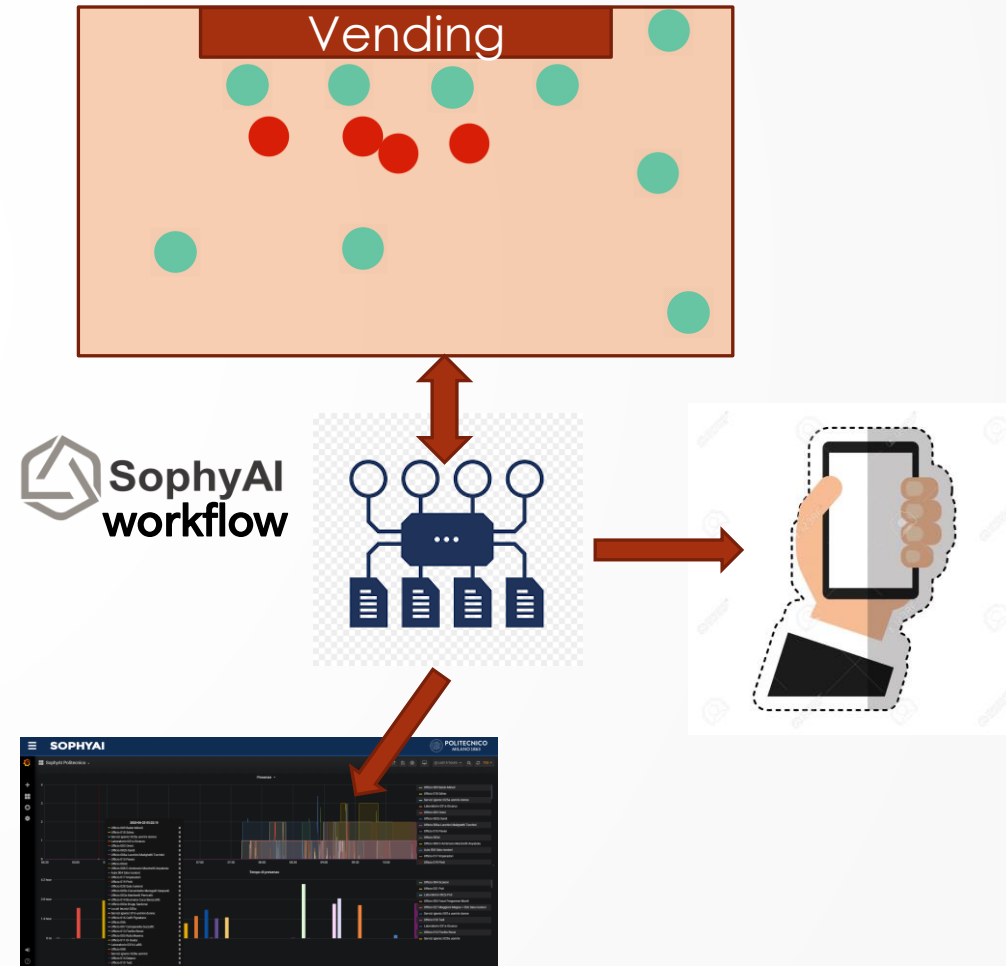
- One component of the challenges vending companies are facing during this pandemic is the forced idling of vending machines imposed by distancing and anti-aggregation rules.

- Our patented **SophyAI®** artificial intelligence platform, through the use of a simple camera, connected in the cloud to the platform, can determine how many people are staying in an area and what the distance between them is.

For users:
to know in real time how many people are "actually" present in the vending machines area

- To facilitate the choice of a "coffee break", a simple app reproduces, in real time on a map, the icons of the people present at that moment in the vending machines area, their number and distance.

- The system is fully compliant with GDPR rules, as **SophyAI®** only uses the footage to generate metadata, which does not contain any reference to the subjects observed by the camera. For **SophyAI®**, subjects are only "objects" identified as "person".

- A speaker, placed close to the camera, sends warning messages if abnormal presence and distance situations are detected.

- Compared to reservation apps, **SophyAI®** monitors the "real" situation at the vending machine.

- All data collected, in an anonymous way, are historicized so that they can be used, independently of the "distancing" purpose, for marketing analysis (people who have been attracted to the distributor, dwell times, successful vending machine positioning, etc.)

For vendors:
the possibility, upon request, to interface the vending machines to SophyAI®.

- **SophyAI®** is structured to interface with any IoT, this allows the possibility to prepare, on request, integrations with the same vending machine.

- APIs for interfacing with the machines can be developed, in order to allow an inhibition of their operation, if conditions of excessive gathering or non-compliance with distances are detected, generating at the same time messages on the display.
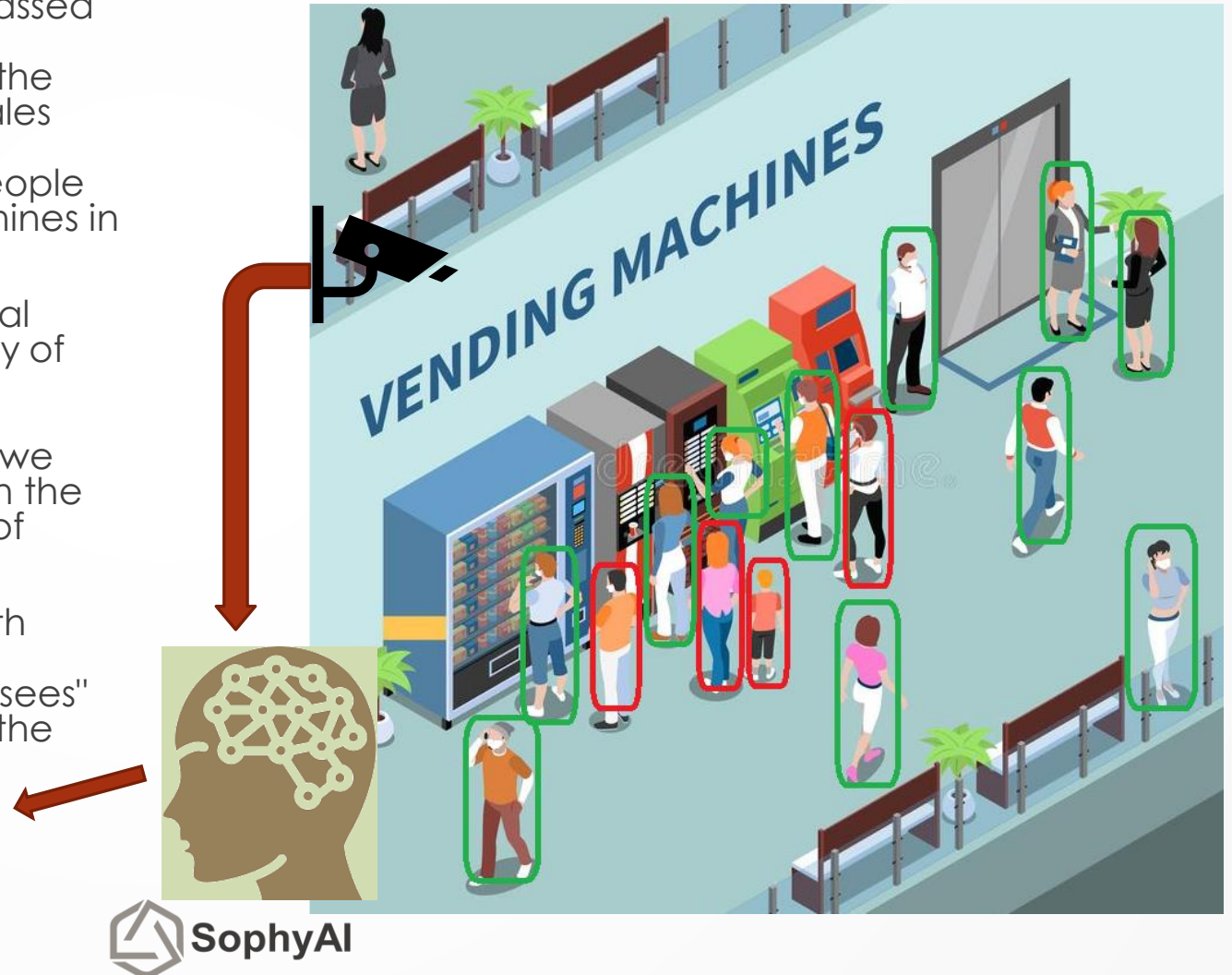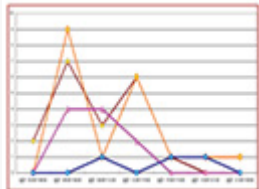
Notices & Usage inhibitions

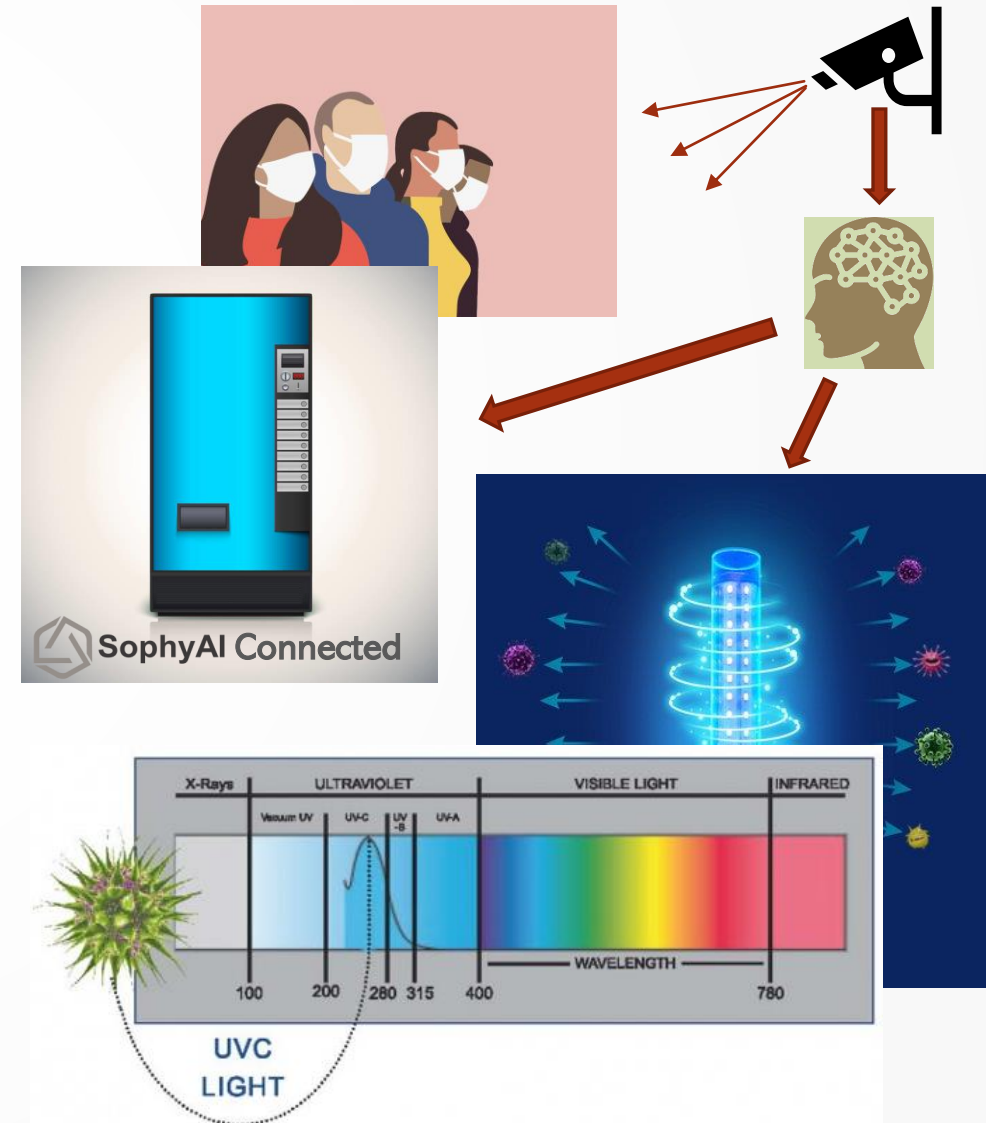SophyAI Connected

How to best serve the catchment area

SophyAI® observes the anonymized flow and the behaviors of people passing by the vending machine.

- Knowing how many people are present or have passed through the area where the vending machine is positioned, as we said, is important to understand the correct positioning of the machine. If the actual sales data are parameterized to the total number of presences, it is possible to find out if the mass of people flow allows the positioning of further vending machines in the area.

- Besides, **SophyAI®** can distinguish between a normal transit of people and a stay of people in the vicinity of the vending machine. Knowing if the number of purchases made is not in line with the presences detected by **SophyAI®**, allows, in addition to what we said in the previous point, to carry out reasoning on the type of offered products, on the speed and ease of dispensing them.

- In the case of interfacing the vending machine with **SophyAI®**, the activities of product release can be associated and contextualized to what **SophyAI®** "sees" at a given moment, and this happens throughout the whole day.

Advanced safety features managed and controlled by SophyAI®.

- **SophyAI®**, through the cameras installed in the vending machines area, can check if the people present are wearing the mask, generating alerts and, if the vending machine is connected to SophyAI®, inhibit its operation by highlighting, on its display, the request to wear it.

- **SophyAI®**, optionally, can, by detecting the absence of people, automatically carry out the disinfection of the refreshment area using UVC lamps. The disinfection can be programmed in relation to the number of people who have stationed in the area and immediately interrupted if a human presence is detected.

- If the vending machine is connected to **SophyAI®**, one or more UVC lamps can be integrated into the beverage and product recovery compartments. The criterion of activating the UVC lamps, is managed by **SophyAI®** with the modalities indicated in the previous point.

SophyAI Connected

SophyAI® can interpret people's suspect behavior

- Vandalism or theft can be understood by **SophyAI®** by analyzing people's movements close to the vending machine. By applying a segmental analysis to the observed subject, "abnormal" behaviors can be detected, defining parameters of posture, speed, and direction that may suggest vandalism or theft.

- If the cameras are equipped with a microphone, specific noises can also be interpreted that can be attributed to actions other than the normal context of picking up the dispensed product.

Thanks for your attention

We are at your disposal for any clarification or for a demo of the functional features of our SophyAI® artificial intelligence platform.

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